Name of Parasite	Entamoeba histolytica	Giardia lamblia	Plasmodium falciparum - P. vivax P. ovale - P. malariae	Toxoplasma gondii	Leishmania infantum Leishmania donovani
Kind of Parasite	intestinal protozoa	Intestinal Flagellates "protozoa"	Tissue and blood protozoa	Tissue and blood protozoa	Hemoflagellates Tissue and blood protozoa
Name of disease	Amoebiasis	Giardiasis	Malaria	Toxoplasmosis	Visceral leishmaniasis "Kala azar" infantile kala azar
Host	Man	Man	Definitive:- female anopheles mosquito Intermediate:- human	Definitive: Domestic Cats Intermediate:- Man Rats - Mamals	Reservoir: - Animals "dogs foxes-rodents" Man
Habitat	large intestine	- upper part of small intestine - rarely gall bladder	- Sexual cycle: in mosquito - a sexual cycle: in liver + RBCs of human	Intra cellular in many organs of cats and humans	organs of RES "spleen bone marrow, lymphnodes, liver" macrophages
Source of infection	Cyst passers	Cyst passers	- Man having gametocytes in blood. - female anopheles mosquito	Cat	Female sand fly
Morphology	- cyst form - Trophozoite form	- cyst form - Trophozoite form	- Sporozoites - merozoites - schizonts - Trophozoites - male and female gametocytes	- Trophozoites "tachyzoite" - cysts - oocysts - pseudocysts	- promastigoite leptomonas form - amastigoite leishmania form
Infective stage	Mature 4 nucleated cyst without cromatid bodies	Fully developed cyst with 4 nuclei	- Sporozoites "mosquito's bite" - Merozoites "other mods of transmission"	- Tissue cyst - Trophozoite - Pseudocyst - Fully developed Oocyst	- promastigoite
Diagnostic stage	- Forma magna - binucleated cyst - mature 4 nucleated cyst with cromatid bodies	- cyst in stool - trophozoite by endoscopy.	- ring form trophozoite "P. falciparum" - ameboid shaped T "P. vivax" - band shaped T "P. malariae" - ovale shaped RBCs "P. ovale"	- Tissue cyst	- amastigoite
Specimens for diagnosis	- fresh stool	- fresh stool	- blood	- blood - Tissue biopsy	- blood - bone marrow aspiration

Name of disease	Amoebiasis	Giardiasis	Malaria	Toxoplasmosis	Visceral leishmania
Drug of choice	Flagyl *others:- -furamid tabes -tetracycline tabes In liver absess:- -metronidazole I.V. -furamid -chloroquine	Flagyl *others:- albendazole mebendazole	*complicated P. falciparum:- Quinine * all other species:- chloroquine phosphated followed by primaquine phosphate * uncomplicated chloroquin resistant P. falciparum: arthemeter + lumfantrine	- Pyrimethamine with sulfaniazine + folinic acid *others page 20	-Pentostam «antimony sodium gluconate» * others:- pentamidine isothionate «lomidine»
Tests	Confirmatory:- Stool examination «wet prepration» + formaldehyde Ether concentration method + string test No additional	Confirmatory:- stool examination «wet prepration» + formaldehyde ether concentration method No addithional	Confirmatory test:- blood for thick and thin film No additional	*Confirmatory:- - Sabin field mann - tissue culture - DNA probe - PCR - Animal inoculation *Additional: - Elisa - CFR - IF reaction - IHA	Confirmatory:- - bone marrow aspiration - lymph node aspiration for culture in NNN medium and to be stained with leishman stain to see L.D. bodies. * Additional:- «All sensitive» - Immunoglobulin test - IHA - IFA - Elisa method - Immunochromatographic techinque *Direct agglutination test.
Complications	1- Intussusception 2- Intestinal hemorrhage 3- Intestinal perforation 2-3 lead to peritonitis 4- liver, brain and lung absess 5- Amoeboma 6- large metastatic wound infection.	1- megaloblastic anemia 2- bleeding tendency 3- cholecystitis 4- sever pyogenic bacterial infection: - sever pheumonia - sinusitis - otitis - meningitis 5- reversible pancreatic exocrine dysfunction	P. falciparum:- - cerebral malaria → coma → Death - acute phychoses - black water fever - Jaundice - fatal pulmonary edema - Thrombocytopenia - Dysentric malaria - Alged malaria - hyper pyrexia - hypoglycemia. P. vivax - P. ovale:- splenic rupture due to relapses P. malariae: Nephrotic syndrome → renal failure → Death	- abortion - encephalitis and death in new borns - encephalitis and death in immunocompromized patient - Hydrocephalus. - Microcephalus - Retinochoroiditis → blindness - Mental retardation - Deafness - Epilepsy - Myocarditis - Hepatitis	- Noma - GIT bleedings - Cerebral hemorrhage - bleeding gums - epistaxis - purpura - sever anemia - hypoalbuminemia - nephritis - hyperpigmentation of forehead, abdomin and extremities.

* Formol gel Aldehyde test of Napier is Non sensitive , Non specific test but can be considered as ~~dia~~ confirmatory diagnosis when it comes with or accompanied by clinical picture and epidemology.

Schistosoma

Share and care

- Kingdome: Animal Kingdom.
- Phylum: Platyhelminthes.
- class: Trematoda (Flukes) → (Blood - Flukes)
- Family: Schistosomatidae
- Genus: Schistosoma جنس منشقة الجسم
- Species:
  1. Schistosoma haematobium (S.h)
  2. Schistosoma mansoni (S.m).

- De Seases:
  1. Urogenital or vesical or urinary schisto-somasis (Bilharziasis)
  2. intestinal Schistosomiasis.

- Habitat:
  1. S.m → adult live in the small branches of the inferior mesentric vein in the lower colon.
  2. S.h → adults live in the vesical plexuses (veins surrounding the bladder).

- Site of laying eggs:
1. S. m → in the venules of lower colon and haemorrhoidal plexuses.
2. S. h → in the venules of the bladder.

- The larva stage:
1. S. m → Biomphalaria Alexandria.
2. S. h → Bulinus truncatus.

- Diagnostic Stage:
* S.h → seen the fully developed ciliated - embryo (Miracidium). in the unpreserved urine in heavy infection we can see the adult by naked eye.
* S.m → seen the fully - developed ciliated embryo (Miracidium). in fresh unpreserved faeces.

- Intermidate host:
1. S.h → the snails Bulinus truncatus.
2. S. m → " " Biomphalaria alexandria.

- infective stage:
* Cercaria

- Definitive host :
    man
- Start Point:
1. S.h → Liver → hypatic vein.
2. S.m → Liver → Portal vein.

- Laboratory diagnosis:
كونه ال adult تنزلها ع ال Urine وكونه ال Stool
* S. mansoni → Stool Speciment to detect an egg of Shistosoma mansoni

* S. haematobium → urine after excersie but in older people they should give the end portion of the urine. To detect an egg of S.h. containing fully active motile developed marsidum.

- Drug of choice:
Prazyquantel
لقت ال vaccine فقط ع حالة واحدة لل cattel
و S. Japonicum



☺ EXCerSies :

Q: Give shortly the mechanisim of the S. haematobium ?

Q: Give the main infection of the liver?

Q: Explain the development of esophageal rupture in portal hypertension of S. mansoni ?

Q: Explain the mechanism of development of caput Medusae of S. mansoni ?

Ascaris Lumbricoides

- Name of parasite: Ascaris lumbricoides
- Kind of parasite: Intestinal nematode
- Name of disease: Ascariasis
- Host: Difinitive host is man, No intermediate host.
- Habitat: Small intestine
- Morphology: Adult male and female + egg ⇒ Fertilized egg
  ⇒ unfertilized egg
  ⇒ Decorticated egg

  * Rest of details about morphology are in the hand out.
- Source of infection: Swallowing water or raw vegetables polluted with eggs containing the infective stage or through contaminated hands by polluted soil.
- Infective stage: egg containing 2.5 time folded larvae



- Complications: according to each stage we have different complications
  - * Migration stages:
    - A. Minute hemorrhage and pneumonitis
    - B. Allergic manifestations as asthma, oedema
    - C. Fever, cough and expectoration of blood «stained sputum»
    - D. Eosinophilia
    - E. Larvae may reach left heart and distributed as emboli «by carrying intestinal bacteria + blood vessels obstruction» to various organs as lymph nodes, brain, spleen, kidneys, eyes etc. causing meningitis, epilepsy, fatal-pulmonary-embolism and cardiac arrest.

    Thus, it is considered as the most important parasite causing embolis

    - occlution of central-artery of retina causes permanent blindness.
    - Embolus formation in middle-cerebral-artery in brain will cause hemiplegia

  - * Intestinal stages: In adults it causes
    - (a) Traumatic damage:
      - * Cause intestinal obstruction
      - * Penetrate the intestinal wall causing Peritonitis.
      - * Occlude the bile duct, Pancreatic duct or appendix
      - * Migrate to stomach and maybe vomited, escape from nose, enter into pharynx or eustachian tube.



(b) Toxic effects:

* By-products of living and dead worms may cause allergic manifestations, nervous irritability or loss of appetite and weight.

* Worms produce trypsin-inhibiting substance which interferes with protein digestion.

- Patients usually feels vague abdominal discomfort, colic dyspepsia, vomiting, diarrhea or constipation.

- Diagnostic stage: - Protoblast «fertilized unsegmented ovum» uninfective
  - Eosinophilia and larvae found in sputum

- Drug of choice: Albendazole: 400 mg for adults, 200 mg for children below 2 years

- Another drugs: - Mebendazole «vermox» 100 mg x 2 x 3 days

- Prevention: * Proper wash of vegetables eaten raw.
  * Health education
  * washing hands before meals.
  * Mass treatment
  * Sanitary disposal of human feces. This should not be used as fertilizers for plants.

End

Name of parasite	Ascaris lumbricoides	Schistasoma hematobium S.h Schistasoma manonmi S.m
Kind of parasite	intestinal nematodes	blood flukes «trematodes»
Name of disease	Ascariasis Loeffler's Syndrome	- Intestinal schistosomiasis S.m - Urogenital, vesical or urinary Schistasomiasis «bilharziasis»
Host	Man	Definitive : Man Intermediate : snails
Habitat	Small intestine.	S.m : small branches of inferior mesentric vein in lower colon S.h : vesical plexus.
Morphology	- Adult male and female worms - eggs: fertilized, unfertilized Decorticated - larva stage	- adult male and female worms - mature egg - larva stage
infective stage	egg containing 2.5 times folded larvae.	A cercaria
diagnostic stage	- protoblast « fertilized unsegmented ovum » - not infective - larva in sputum	fully developed ciliated embryo «miracidium» - in unpreserved urine S.h - in fresh unpreserved stool S.m
Drug of choice	Albendazole other :- mebendazole	- Prazyquantel.
Specimen for diagnosis	- Stool - sputum - blood	- urine «last portion of it» - stool
tests	- stool examination looking for eggs Additional:- - eiosinophilia. - larva in sputum «loeffeler's syndrome» - saliva for certain biochemical test for enzymes detection spesific	Confirmatory:- 1 - stool examination «wet prepration» + F.E.C.M ((S.h)) 2 - urine after exercise «last portion of urine» ((S.m)) No additional test.
Complications	ص 12	ص 16

Group Share and Care 39

هذا عمل طلابي قد لا يخلو من أخطاء فالرجاء الإعلام في حال وجود خطأ لتصحيحه ...

ولا تنسونا من صالح الدعاء ^_^

بالتوفيق